

Arriva Operation and Installation Manual



Approved by the Asthma and
Respiratory Foundation

Appliance must be installed with an approved Rinnai flue system.

Appliance must be installed, commissioned and serviced by a licensed tradesperson in accordance with these instructions and all applicable local rules and regulations.

Owner, please retain this manual for future reference.



LIMITED WARRANTY

Rinnai brings you peace of mind
with a 2 year minimum warranty.

TERMS AND CONDITIONS

1. During the 24 month period from date of purchase and subject to clauses 2 and 3 below, Rinnai New Zealand Limited ("Rinnai") will, at its own discretion, either replace or repair any defective product at no charge to the customer.
 2. This warranty covers manufacturing defects only. This warranty will not apply if (for example) the product has been improperly installed or is otherwise installed contrary to manufacturer's recommendations, has been damaged during or after installation, has not been operated in accordance with operating instructions, or has been subjected to damage or abuse beyond that expected from conditions of normal use.
 3. Warranty claims may be invalid if not accompanied by details of the installing or supervising gas fitter's registration number and the gas fitting certification number.
 4. This warranty commences from the date of purchase. Proof of purchase is required at the time of any warranty claim.
 5. Servicing of the product is to be carried out by a Rinnai authorised service centre.
- All Rinnai appliances meet or exceed the safety standards required by New Zealand gas and electrical regulations. The company is constantly improving its products and as such specifications are subject to change or variation without notice.

Please keep these instructions in a safe place for future reference.

RECORD AND ATTACH YOUR PROOF OF PURCHASE BELOW:

Your Retailer: _____

Name: _____

Address: _____

Telephone: (_____) _____

Date of Purchase: _____ / _____ / _____

Rinnai

Contents

Customer Information

Limited Warranty	2
About Your Arriva	4
Safety	5
Clearances	6
Mantles and Surrounds	7
General Information	8
Basic Heater Operation	10
Operation Using Remote Control	12
Care and Maintenance	15
Servicing	17
Abnormal Flame Pattern	18
Troubleshooting	19
Arriva Accessories	22

Installer Information

General and Specification	24
Appliance Positioning	25
Gas Supply and Direct Flue Wall Penetrations	26
Flueing	27
Arriva Installation	32
Installing the Log Set	35
Commissioning	37
Setting Air Guide Vanes	38
Front Fascia and Top Panel	39
Wiring Diagrams	40
Commissioning Checklist	42
Installer Details	43
Customer Contacts	44

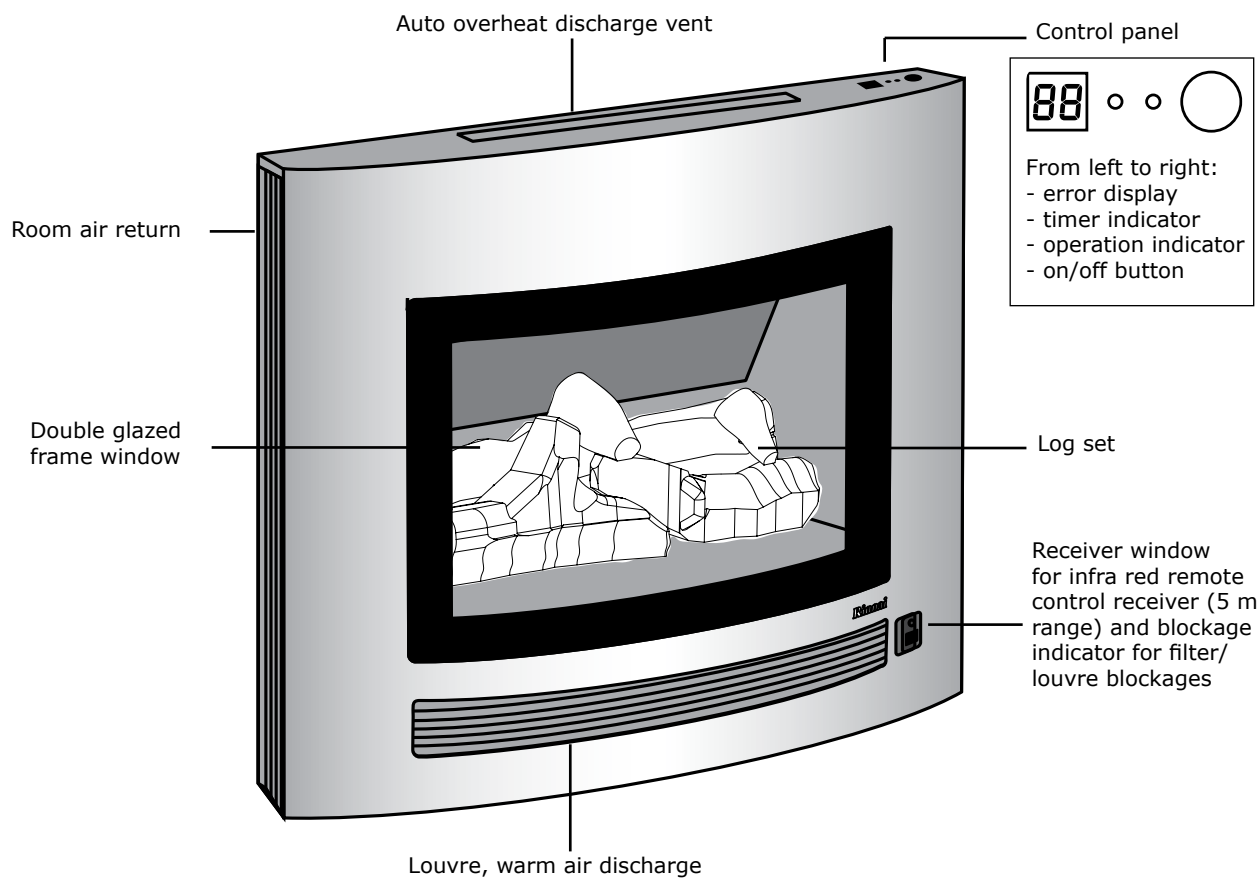
WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.



For assistance or additional information contact Rinnai on 0800 RINNAI (0800 746 624).

About Your Arriva



Gas Consumption:	31.5 MJ/h (high)
Output:	7.0 - 1.8 kW
Efficiency:	80% (high)
Heats Area Up To:	70 - 95 m ² (depending on the region you live in)

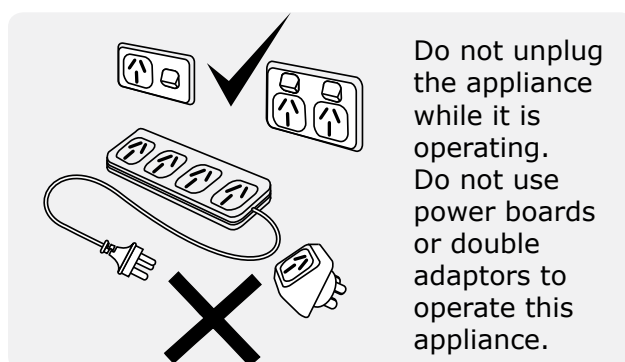
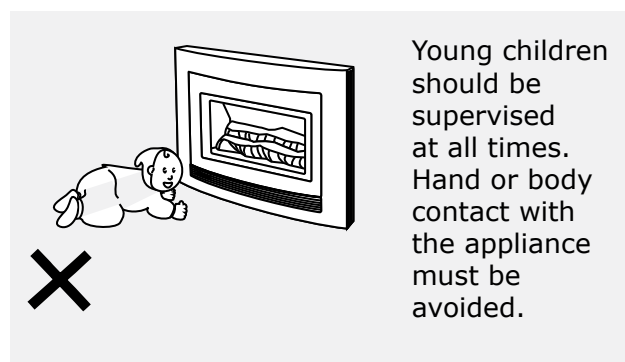
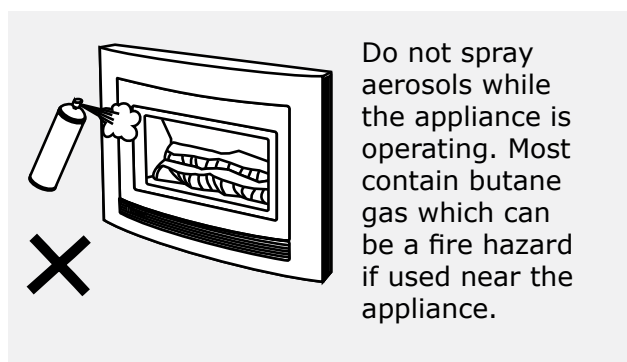
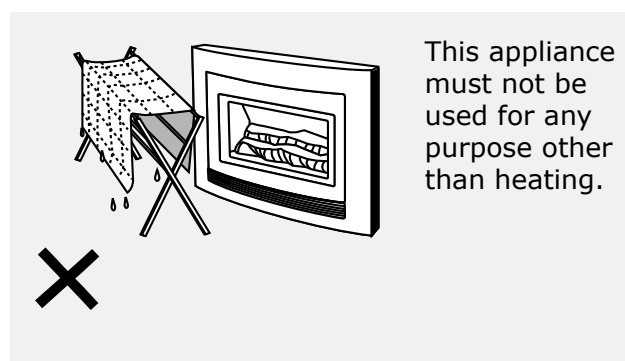
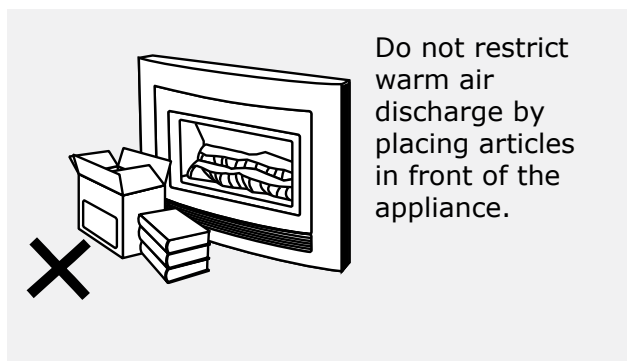
Power flued appliance that uses a fan to draw air from the outside for combustion. Combusted gases are propelled back outside creating combustion efficiency and better room air quality.



The operation section of this manual has been written to:

- Highlight the safe operation and positioning of this appliance
- Advise on maintenance, servicing and troubleshooting to ensure optimum performance

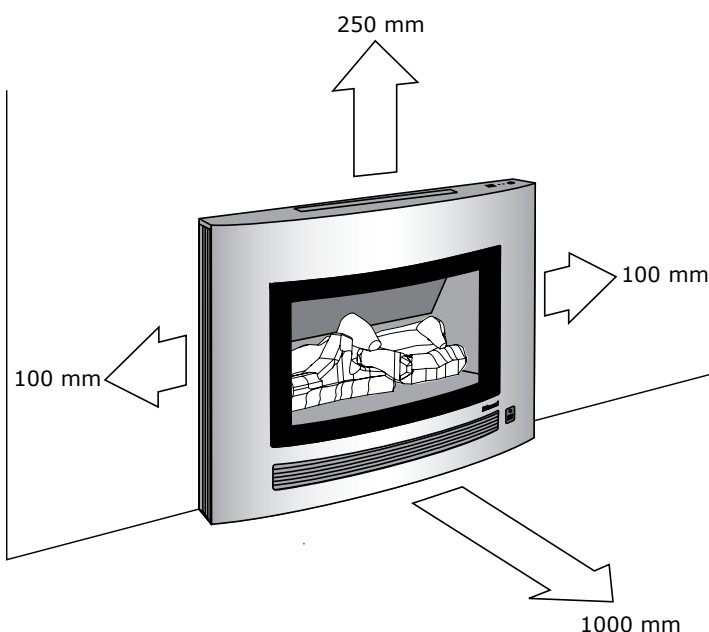
Safety



Clearances

The appliance must not be installed where curtains or other combustible materials could come into contact with the heater. In some cases curtains may need restraining.

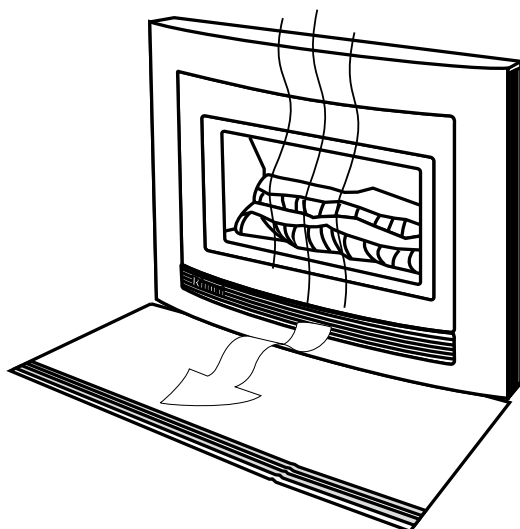
The diagram below shows clearances required when the heater is operating.



Floor protection

This appliance discharges a large volume of warm air at a low level.

Heat emanating from this fire may over time affect the appearance of some materials used for flooring, such as, carpet, vinyl, cork or timber. This may be amplified if the air contains cooking vapours or cigarette smoke. To avoid this occurring, it is recommended that a mat be placed in front of the appliance.



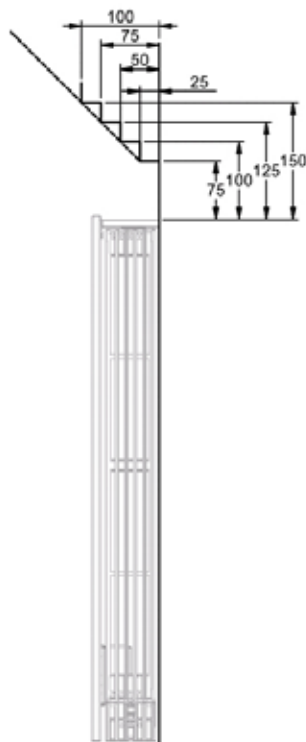
Mantles and Surrounds

Mantles and surrounds can be added to complement design providing they are within the clearance requirements below.

Mantles

75 mm is the minimum clearance above (to allow the overheat safety device to open), with a maximum depth of 25 mm.

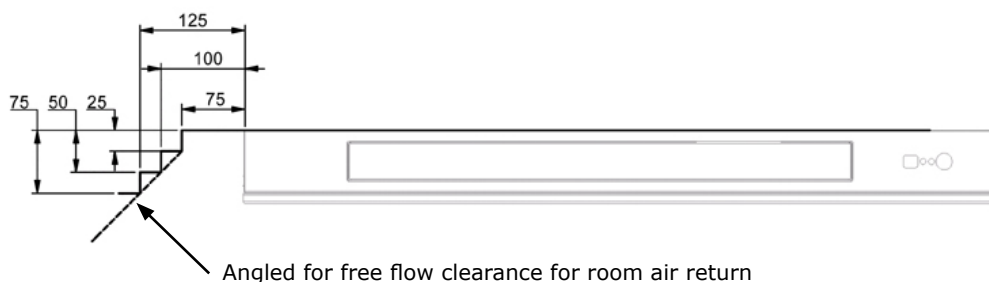
For every 25 mm of added depth, there must be 25 mm of vertical clearance. Refer mantle diagram below.



Surrounds

75 mm is also the minimum clearance from the sides for access to side louvres, opening, cleaning and room air return. At 75 mm, the maximum depth is 25 mm. For additional depth, 25 mm of horizontal clearance is required for every 25 mm of added depth.

Refer surround diagram below.



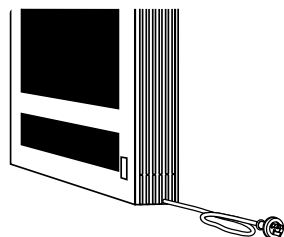
General Information

Before operation



Read these instructions to get an overview of how to operate, maintain and service your Rinnai Arriva.

Electrical connection



The standard electrical connection is to the right hand side of the heater front assembly. If necessary this can be changed by your electrician to terminate on the left.

A 3 pin plug is supplied which must be connected to a dedicated earthed power point. The power point must be 300 mm to the side of the fire and a maximum of 1500 mm (cord supplied is 1500 mm). It must not be above the unit as this is a potential fire hazard.

Alternatively the appliance can be direct wired if the power supply is to be concealed. The electric isolation switch must be accessible after the appliance has been installed.

If the supply cord is damaged and requires replacing, it must be replaced by a licensed tradesperson. This must be a genuine replacement part available from Rinnai.

Hearths

A hearth is not necessary but can be used for decorative purposes or protection of sensitive flooring if required. Some general guidelines when installing a hearth.

- It must not obscure the front of the fire
- The bottom of the appliance must be level with the top of the hearth so there is a continuous level
- Size should be at least the width and depth of the fire

Remember to adjust the dimensions of the cavity to allow for the hearth.

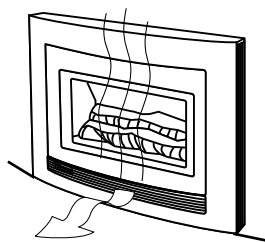
Installation by a licensed tradesperson

Ensure your installer talks to you about the use and care of this appliance and that you understand these instructions. They also need to complete their installer details on page 43 of the installation manual and leave the manual with you.

Improper installation, adjustment, service or maintenance can cause serious injury, property damage or death. Please ensure your installation is completed by a licensed tradesperson.

General Information

Positioning of the Arriva



To gain maximum heating advantage from the bottom air discharge, position the Arriva close to the floor.

Can be fully recessed as long as a 75 mm clearance above and to the sides is maintained for; operating devices to function, access to the unit, cleaning and servicing.

Remote control

- Avoid leaving the remote in direct sunlight and do not place it close to the warm air discharge louvres of the heater
- Avoid dropping or getting wet
- Some fluorescent lights may interfere with the transmission of the remote control signals, changing position from which you are operating the remote may help



The remote uses 2 x 1.5V AAA batteries. Never mix old and new batteries.

Remove batteries if not going to be used for a long time. This will help avoid damage from leaking batteries.

Safety devices

Your Arriva is designed with the following safety devices.

- | | |
|--------------------------------|--------------------|
| • flame failure sensing system | • thermal fuse |
| • explosion relief | • overcurrent fuse |
| • overheat safety switch | • spark detector |
| • air temperature sensor | |

TV installation above fireplace



If installing a flat screen television above the fire, the main issue is heat. Heat from the fire itself and heating from the flueing components that may sit behind the television, especially if recessed.

The Arriva has a fan that distributes warm air at a low level, this pushes the heat out and around the room as opposed to straight up. The Arriva also has a power flue that has virtually zero clearance to any cavity in which it is installed. The flueing components are also small and generate very little heat.

The general rule for installations above a fireplace is the bottom of the television recess should be at least 450 mm above the fire. It is still however up to you to check with your television supplier to verify clearances. Some TV manufacturers have warranty conditions that state a television is not to be installed above a fireplace.

Basic Heater Operation

General notes about ignition

This appliance has a sealed combustion chamber that requires purging before gas can flow and the unit can start. As a result the combustion fan starts several seconds before there are any signs of the Arriva starting.

The normal ignition sequence is:

1. When the On/Off button is pressed the LED will glow red and the combustion fan starts to purge the system.
2. Pilot sparker will operate and as soon as a spark is sensed gas will flow to the pilot.
3. When the pilot flame is established gas will flow to the front and then rear burners.
4. When all burners are on the heater will automatically modulate between burner settings to achieve and maintain the default set temperature of 22 °C.

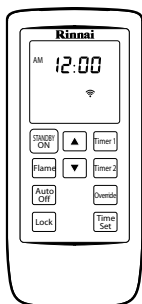
Operation without the remote control (automatic mode)

The heater can be operated and stopped without the remote control by using the On/Off button on the top panel of the heater. This operation is called the automatic mode. In automatic mode the default set temperature is 22 °C.

If the heater is turned off using the On/Off button on the heater control panel, when it is turned back on it will lose all timer and clock settings until the remote is used to re-transmit the information. The remote control stores the clock, timer and temperature settings of the heater.

Operation with the remote control

For the remote control functions to be available, the appliance On/Off button must be in the On position.



The remote control emits an Infra Red signal and must be aimed at the receiver unit located on the right side of the unit. The normal operating range is 5 m. This range may vary depending on the position of the installation and strength of the batteries.

The remote control transmits information to the heater whenever a button is pressed except when the:

- remote display is deactivated
- lock function is activated

When the timers are being set, information is transmitted only when the 'Time Set' button is pressed.

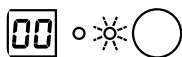


Signal transmissions are confirmed by a brief illumination of the transmission signal indicator on the remote. The unit will also flash and beep to confirm the settings have been received.

When the remote is not used for a period of approximately 5 seconds, the display will default to standby mode, displaying only the time. To re-activate press any button on the key pad.

Basic Heater Operation

Power disruption



If the power is disrupted while the heater is operating, once the power is restored, the heater will go into power failure mode. This is indicated by a flashing zeros in the error display and the LED flashing green.

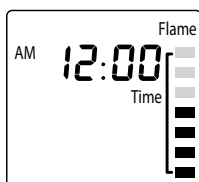
To reset the heater, press the On/Off button once. Press the Standby/On button a second time to switch the heater on.

Do not unplug power supply



Do not unplug the main power supply to turn the unit off as this may cause damage. There are safety devices that will continue to operate without power, however the convection fan is required to operate for several minutes after the unit is turned off to assist in cooling.

Flame function



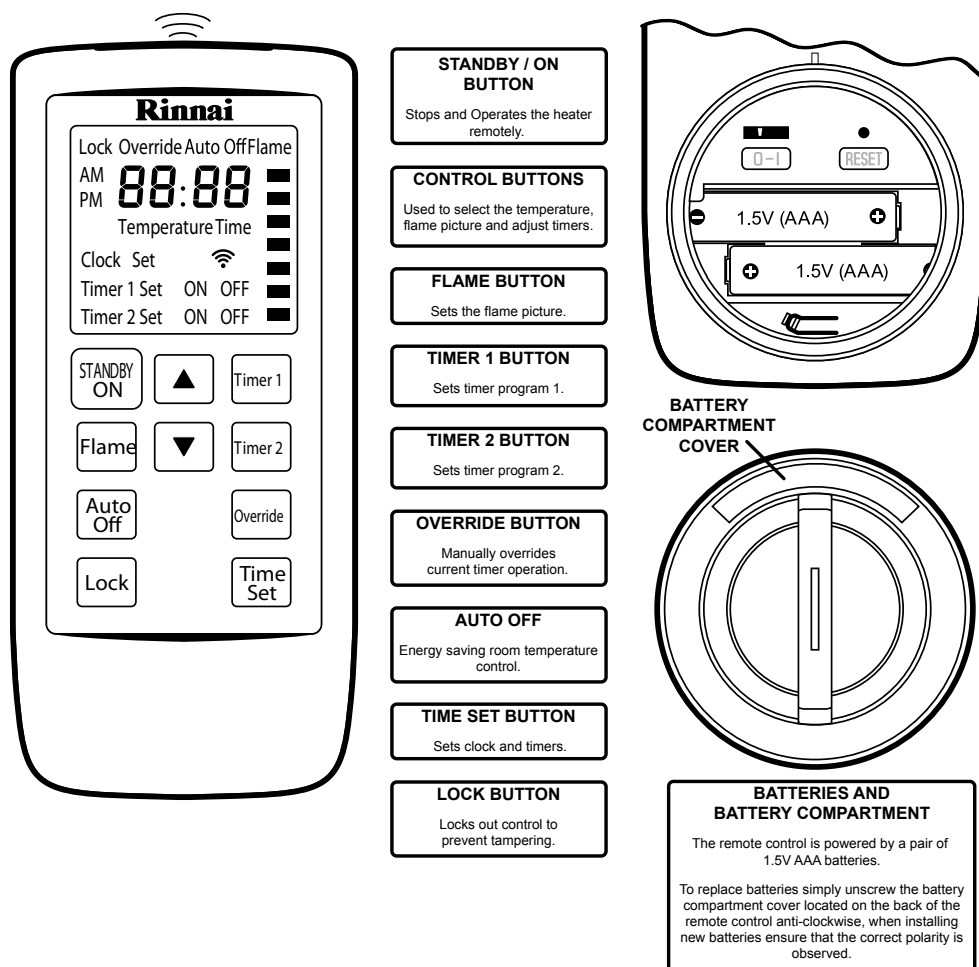
Used to select a desired flame picture and overrides the automatic mode. There are 7 flame picture settings available.

While the heater is in operation press the Flame button. The heater will automatically default to the last flame picture setting. The word 'Flame' and a series of short bars will be displayed to show that the flame function is in operation.

Use the up and down buttons to select the desired flame picture. The number of bars illuminated correspond to your selection.

Should the room temperature exceed 40 °C while the flame function is activated, the heater will switch off automatically. This is a safety feature.

Operation Using The Remote Control



Turning the heater on

When the heater is in Standby mode pressing the Standby/On button will start the ignition sequence and the LED will glow red to indicate that the heater is operating.

Turning the heater to standby

Press the Standby/On button. This will turn off the unit and the LED will glow green to indicate appliance is in standby.

Adjusting the temperature

Pressing the up and down buttons will change the preset temperature by increments of 1 °C.

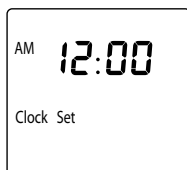
Temperature will be displayed to confirm that the function has been initiated.

The temperature can be preset to:

- L (Low) continuous combustion on low
- 16 °C ~ 26 °C (in 1 °C steps) combustion rate varies to maintain selected temperature
- H (High) continuous combustion on high

Operation Using The Remote Control

Setting the clock



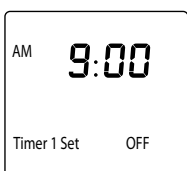
The clock must be set before the timers will operate.

1. Press the Time Set button once, 'Clock Set' will be displayed to confirm function is initiated. The remote will show 'AM 12:00'.
2. Use the up and down buttons to set AM or PM, then press the Time Set button once to start programming the timers.

If you do not want to set the timers at this point, press Time Set four more times until the display returns to the time. If no button is pressed within approximately 90 seconds the screen will deactivate and any settings that have not been transmitted will be lost.

Prior to using the timers ensure the desired temperature has been set, refer previous page.

Setting the timers



After the clock has been set and the Time Set button selected:

1. 'Timer 1 Set ON' and 'AM 06:00' will be displayed. Use the up and down buttons to set the desired AM or PM on time. Press the Time Set button once.
2. 'Timer 1 Set OFF' and 'AM 09:00' will be displayed. Use the up and down buttons to set the desired AM or PM off time. Press the Time Set button once.
3. To set up Timer 2, repeat above steps or press Time Set three times to exit the timer programme.
4. The set On/Off timers will be displayed briefly to confirm settings. When the programs have been received the remote display will revert to the time mode.

Using the timers

You can view the timer settings by pressing the Timer 1 or Timer 2 buttons while the heater is operating. The display will briefly show the status of each timer, i.e. Timer 1 On, Timer 1 Off. If the current time is outside of the programmed times the heater will go into standby mode and the LED will glow green.

To turn the timers off, press the relevant timer button again. The heater will return to standby mode. If there are no timers set the Timer indicator will go out.



After battery replacement the clock and timers may need to be re-programmed.

Operation Using The Remote Control

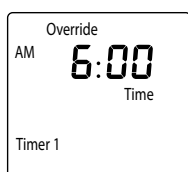
Preheat

Automatically functions in conjunction with the timers. When a timer is selected, the heater may operate anywhere within an hour prior to the programmed On time.

The preheat function ensures the room reaches the desired temperature by the programmed on time. This is achieved by sensing the room temperature one hour prior to start.

Override function

Used to manually override the timers so the heater can be operated outside of the timer settings.

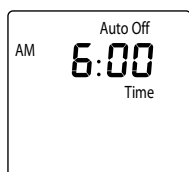


When override is selected 'Override' will be displayed. While in override mode all remote control functions except for the flame function are available until the next timer setting is reached.

To return to the timer setting, press the Override button a second time.

If standby/on is pressed during Override the heater will revert to standby and the timer programs will be cancelled.

Using Auto Off

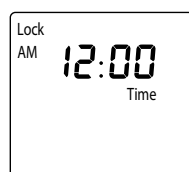


This is a energy saving feature designed to control the room temperature economically. If the room temperature continues to rise when the heater is thermostatically turned down to its lowest setting the front burner will turn off leaving only the pilot flame operating. When the room temperature requires further heating the heater will automatically re-ignite to warm the room.

To switch the Auto Off function to 'On', press the Auto Off button once, 'Auto Off' will be displayed to confirm the function has been selected. To switch this off, press the Auto Off button again. The 'Auto Off' will no longer be displayed on the remote.

Lock function

This is designed as a child lock function which is a safety feature.



When Lock is pressed all remote control functions will be locked with the exception of the Standby/On button for the purpose of turning the heater to Standby only.

The remote control will show 'Lock'.

To cancel, hold the Lock button for 3 seconds.

Care and Maintenance

Your heater needs very little maintenance, however the following information will keep it looking good and working efficiently.



- Switch off appliance before cleaning
- DO NOT use solvents, all parts of the heater and remote can be cleaned using a soft damp cloth and mild detergent
- DO NOT attempt to clean the heater while it is operating or hot

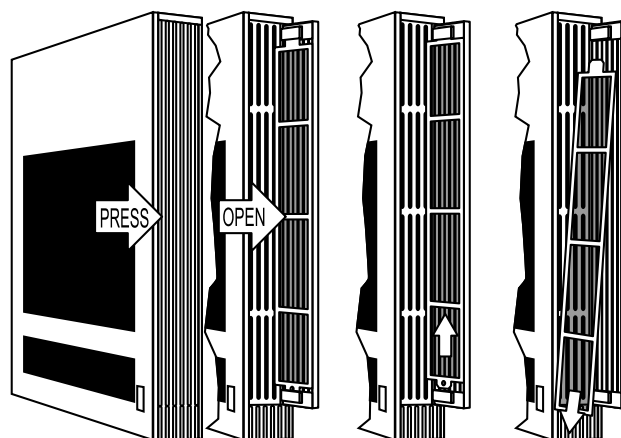
Filters

The filters for this appliance are located inside the room air return doors (side louvres) and consist of 2 metal mesh strips.

The build up of dust on the filter strips reduce the air flow through to the heater. This reduces the heater's efficiency and can lead to the appliance shutting down. Regular filter cleaning during the heating season will stop this from happening.

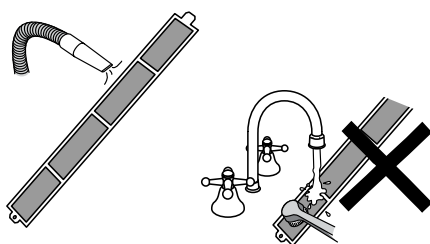
Removing filter strips for cleaning

1. Open the room air return doors. They have spring loaded latches that are hinged to open towards the rear. Pressing the front edge of these doors will unlock the latches and allow the doors to swing open.
2. Carefully slide the filter strip upwards until the bottom tab clears the lower retaining slot.
3. Slide the filter strip down and away from the door and remove.



Cleaning filter strips

Clean any dust or debris from both sides of the filters using a vacuum cleaner, a soft dry cloth or a soft brush. NEVER attempt to clean the filters with water.

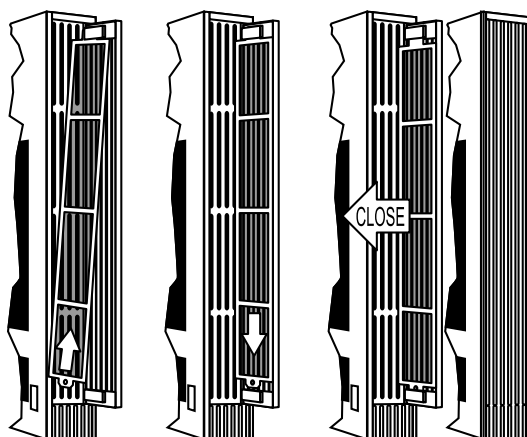


Care and Maintenance

Filters continued

Putting back filter strips

1. Carefully slide the upper tab labelled 'TOP' (no hole) back into the upper retaining slot.
2. While holding the filter flush with the door, lower the filter until the lower tab is in the lower retaining slot.
3. Close the room air return doors so the spring loaded latches lock in place.



Heater shut down due to filter blockages

- Do not wait for the filter blockage indicator (error code 14) to come on before cleaning the filters
- Do not continue to use the heater once this indicator is flashing (red)

When an obstructive build up is detected the blockage indicator LED which is located above the receiver window will begin to flash red to let you know there is a problem.

Once the indicator light is flashing, if no action is taken the heater will eventually shut down to avoid overheating. An error code of 14 will be displayed in the error display window on the top panel of the unit.

Returning the appliance to normal after a shut down

To restore normal operation after a filter blockage:

1. Press the On/Off button once to turn off the heater.
2. Clean the filters as outlined in these instructions.
3. Press the On/Off button to turn the heater back on.
4. Use remote control to resume normal operation.

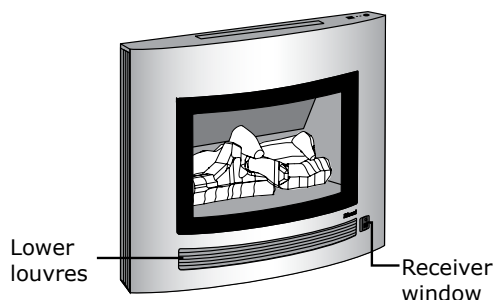
Care and Maintenance

Lower louvres

It's important that the warm air discharge louvres be kept clear of any obstructions as this will effect the performance of the heater.

When an obstruction is detected the blockage indicator LED (above receiver window) will illuminate red and combustion will reduce to the front burner, low operation only.

To restore normal operation, remove the obstruction and use the remote control to resume normal heater operation.



Servicing



Rinnai has a service and spare parts network with personnel who are fully trained and equipped to give the best advice on your Rinnai appliance. If your appliance needs servicing, please call Rinnai (0800 746 624) from a land line and select option 1 for a service centre in your area.

For reliable operation Rinnai Flame Fires should be serviced every 2 years (including inspection of the flue system). If they are in a particularly dusty environment or subject to excess lint, for example dog hair or where there are newly laid carpets then annual servicing would be beneficial.

Regular servicing is not covered by the Rinnai warranty.

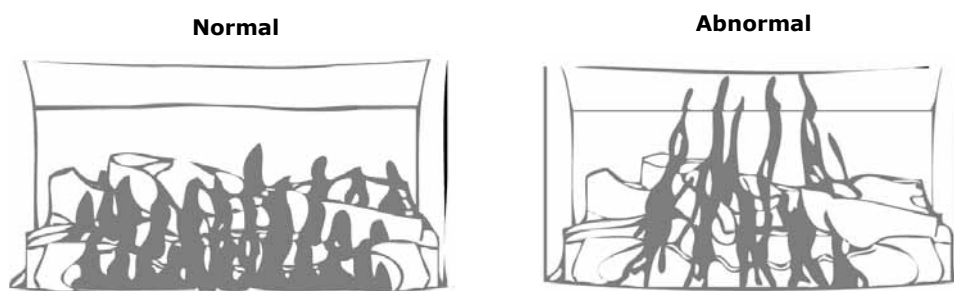
Do not attempt to carry out any service work other than that mentioned in the troubleshooting section. If you have any other faults or problems, please refer to your installer or call Rinnai.

Abnormal Flame Pattern

Each Rinnai Flame Fire has a distinct flame pattern. This should look the same every time you start your fire, after an initial warm up period of approximately 20 minutes.

Abnormal flame performance and/or pattern can indicate a problem with your fire, such as blocked gas injectors or artificial logs/burn media have shifted from when the fire was first installed. There are some warning signs that could indicate a problem.

- Unusual smell from the appliance
- Continued difficulty or delay in establishing a flame
- Flame appears either very short or very long



- Flame only burns part way across the burner
- Severe soot building up on the inside of the glass door

If any of the above signs occur, please call Rinnai to discuss.

Troubleshooting

Check the following information before making a service call as some performance characteristics of the Arriva are a normal part of operation.

If you are still unsure or concerned after reading this section, please contact Rinnai.

Using the heater for the first time or after long periods of non use

Ignition may not occur the first time it is operated due to air in the gas pipes. If ignition does not occur within approximately 60 seconds the appliance will attempt to re-light. If ignition does not occur the unit will switch off automatically. Try operating the heater again if this occurs.

The heater may make noises after ignition or switching off. This is due to expansion and contraction of the internal components and is normal.

The heater will not ignite if the On/Off button is pressed straight after the heater has turned off. After approximately 20 seconds the unit will automatically go into ignition mode.

General heater characteristics

Characteristic		Explanation
When turning on	Warm air does not start when the burner lights.	The room air fan starts automatically after a short delay. This is to allow the appliance to warm up, helping avoid cold draughts.
	Smoke or strange smells are produced when first operating the appliance after installation.	This is caused by grease, oil or dust within the appliance. This will stop after a short time.
	Sharp clicking noises at ignition, or when the unit thermostat modulates to a lower or higher setting, or shuts down.	This is expansion and contraction of the heat exchanger and is a normal part of operation.
During operation	Clunking noise when the thermostat operates.	This is the sound of the gas valve opening and closing to regulate the flow of gas.
When turning off	Fan continues to run after the heater is turned off.	This is to remove residual heat from within the appliance. This stops once the Arriva cools.
Other	Steam is discharged from the flue terminal outside.	High efficiency appliances tend to discharge water vapour on cold days. This is normal.
	Heater doesn't start when the Standby/On button is pushed (thermostat on high)	Check that the appliance On/Off button is On. Check timer(s). Timer programmes must be turned off or overridden for manual operation.
Timers	Timer(s) do not operate at the set time.	They may be inactivated or incorrectly programmed. Check timers are set correctly.
	Timer operates for a short time and then cuts out.	Room temperature may be higher than the set temperature. Increase set temperature if desired. Cancel the Auto Off function.

Troubleshooting

Checklist

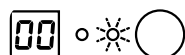
Probable Cause	Fault Condition						Possible Solution
	No display on remote	No ignition or control panel indicators	Burners fail to ignite	Arriva stops during operation	Smell of gas	Remote control doesn't work	
Not plugged in or turned off		●				●	Plug in power cord or press On/Off button
Mains power failure		●		●			Use power failure reset procedure on page 11
Air in gas pipe when initially installed			●				Installer to purge air from gas supply
Filter obstructed				●			Remove and clean filters
Gas escape					●		Isolate gas supply and contact Rinnai for a Service Centre
On timer set						●	Use override button
Lock set						●	Cancel lock
Gas supply turned off			●	●			Turn gas supply on at the meter or cylinder
Flat batteries	●						Replace remote control batteries
Remote control lock-up due to signal being out of range, incorrectly aimed or obstructed						●	Press the Standby/On button

Troubleshooting

Error codes

Your Arriva heater is fitted with self diagnostic electronics that monitor the appliance during start up and operation.

Should a fault occur the heater will shut down. The fault that has caused the shut down will be indicated by a pair of flashing digits in the error display window and a green flashing operation indicator.



Refer to table below for probable cause and suggested solution.

Code	Probable Cause	Suggested Solution
00	Mains power failure	Reset heater, press the On/Off button twice or use remote control and press Standby/On button once for standby mode, press the Standby/On button a second time to set the heater to On.
11	Ignition failure	Check gas supply is turned on, switch heater to Standby and then On again. If ignition failure continues a service call will be required.
12	Incomplete combustion	As above.
14	Filter blockage/overheat	Clean filters, if error continues a service call is required.
16	Room overheat	Lower room temperature to below 40 ° C.
31	Room temperature sensor faulty	Service call.
32	Overheat temperature sensor faulty	Service call.
33	Overheat temperature sensor faulty	Service call.
53	Spark sensor faulty	Service call.
61	Combustion fan motor faulty	Service call.
71	Solenoids faulty	Service call.
72	Flame detection circuit fault	Service call.
73	Communication error	Service call.

Arriva Accessories

Rinnai offers 4 distinctly styled fronts. These interchangeable fronts allow the Arriva to be tailored to suit the style of your interior.

Arriva Plasma Fascia A continuous sweep of curved glass.



Arriva Midnight Fascia A continuous arc of glossy black glass.



Arriva Shine Fascia A cool, modernist look in stainless steel.



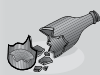
Arriva Classic Fascia A classic square style in matt black steel.



Installer Information



Before installation:



The heater is supplied in 2 separate cartons (excluding flue). One carton contains the heater body assembly and the log set, while the other contains the fascia and top panel. Unpack appliance and flue components and check for damage.

DO NOT install any damaged items.



Check all components have been supplied and that you have the correct gas type.



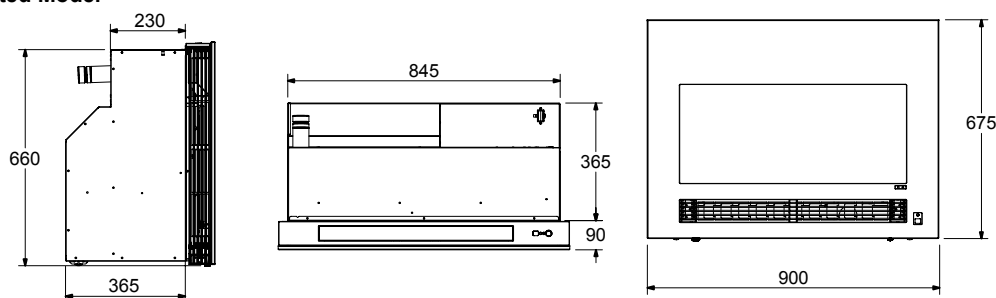
Read these instructions to get an overview of the steps required before starting the installation. Failure to follow these instructions could cause a malfunction of the appliance. This could result in serious injury and property damage.

Specification

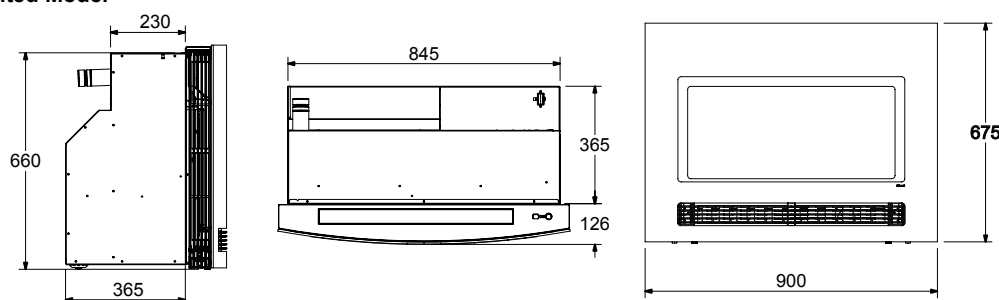
The manufacturer reserves the right to change or modify specifications without notice.

Description	Inbuilt convector, ceramic log space heater with forced convection and power flue system. Glass or steel fronted.	
Combustion Method	Yellow flame and bunsen multi port burner	
Data Plate	Inside appliance, upper right hand side beside convection fan.	
Fan	High, medium and Low (Auto Off function only)	
Flue	Balanced flue, inner = 50 mm, outer 75 mm Flue must be terminated to the atmosphere in accordance with NZS 5261. Rinnai warranty conditions will be voided if non Rinnai flue components are fitted. This heater is only certified for use with approved Rinnai Arriva flueing components.	
Gas Connection	½ " BSP male flare to barrel union (lower right hand side of appliance)	
Gas Control	Electronic control	
Gas Type	NG or LPG	
Ignition	Electronic continuous spark discharge to intermittent pilot by either remote or push button method.	
Input/Output	31.5 - 8 MJ/h	7.0 - 1.8 kW
Noise Level	33 - 41 dB(A), fan low to high	
Power Consumption	High 90 W, Low 60 W, Standby 10 W Standard electrical connection is to the right hand side of the appliance	
Safety Devices	Overheat, power failure, flame failure, thermal fuse, overcurrent fuse, spark detector and temperature thermistor.	
Temperature Control	Thermostatic, temperature control range 16 - 26 °C	
Thermal Efficiency	80% on high - energy efficiency 4.2 stars (direct flueing) - energy efficiency 5.2 stars (extended flueing)	
Weight	70 kg	

Steel Fronted Model



Glass Fronted Model



Appliance Positioning

When positioning the unit, the main points governing location are flueing and warm air distribution.

This heater must not be installed where curtains or other combustible materials could come into contact with the appliance. In some cases curtains may need restraining.

Enclosure requirements

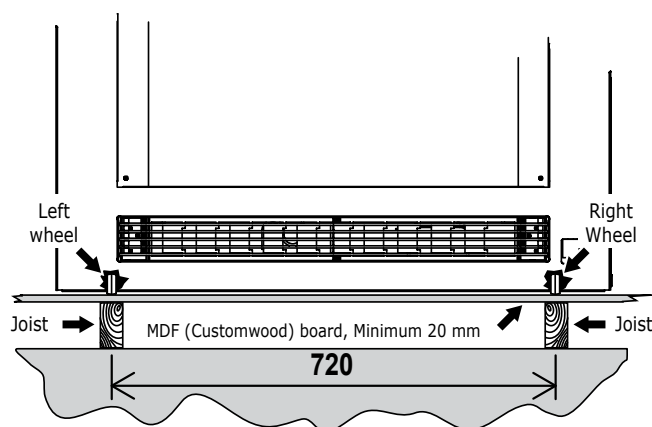
The Rinnai Arriva has a cool outer casing, it can be installed into an existing masonry or decorative fireplace.

A pair of wheels located at the rear of the heater allows it to be slid in and out of the enclosure for commissioning and maintenance. The heater must be positioned on a flat level surface that allows free movement of the appliance.

In a masonry fireplace, use a slurry of sand and cement to level the base as required.

In a decorative fireplace, when the appliance is elevated from the ground, construct a base using a board with supporting joists as shown.

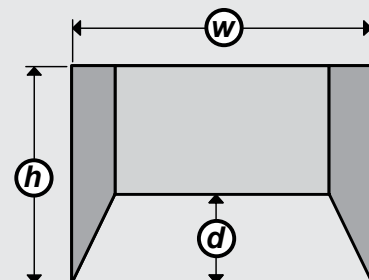
In elevated installations the front mounting feet of the appliance will protrude. These can be re-positioned so they fit within the enclosure by using the slots that sit behind the front wheels.



Enclosure Dimensions

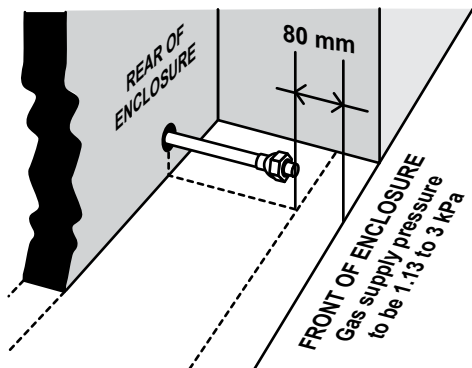
Width (w)	845 - 860 mm
Height (h)	660 - 665 mm
Depth (d)	380 mm direct flue 475 mm extended flue

All dimensions provided are critical to the installation of this appliance and must be strictly adhered to.



Gas Supply

The gas ($\frac{1}{2}$ " BSP) terminates inside the heater and enters the appliance (lower right hand side) from the rear. To ensure correct positioning, terminate the gas supply so it is 80 mm in from the front face of the enclosure opening.

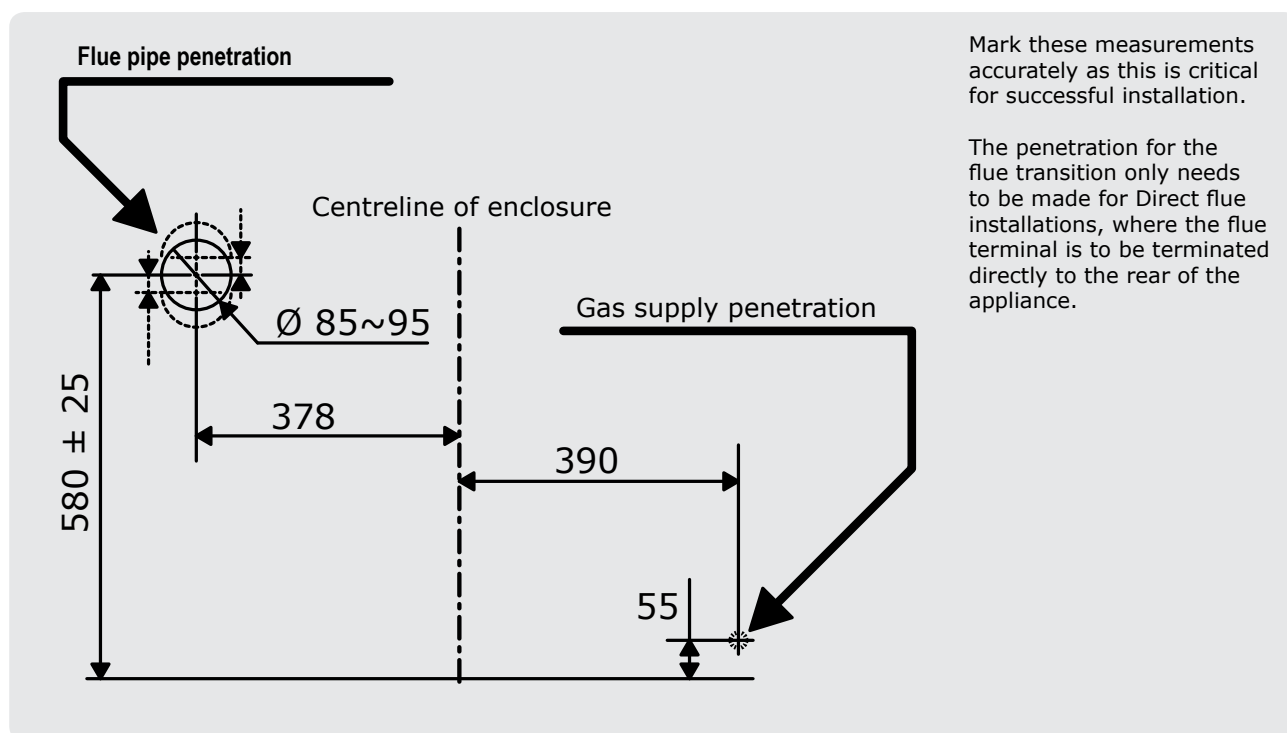


Gas pipe sizing must consider the gas input to this appliance as well as other gas appliances in the premises. The gas meter and regulator must be specified for the total gas rate. An approved sizing chart such as the one in NZS 5261 should be used.

All foreign materials such as filings must be purged from the gas supply as they may cause the gas control valve to malfunction.

Direct Flue Wall Penetration Requirements

Use the guide below to mark the penetration points (mm) for the gas supply and flue transition locations. Consideration must be given to the position of any studs, noggins or other components of the wall structure on both sides of the wall.



Flueing - General



For all installations an Rinnai Arriva flue system **MUST BE** used. Flue system must be fully assembled and secured in place before the heater is installed.

Flue terminal locations

Must be compliant with 'Clearances Required for Flue Terminals' from NZS 5261 2003. Flue terminal should be positioned away from flammable materials.



Flashings

Are not part of the flue kits or components and must be specified.

Clearance to combustibles

- Flue transition (refer page 30) = 5 mm
- Elbow component of Adaption Flue Kit (ASPKIT03) = 25 mm

All other Arriva flue components have zero clearance.

Maximum length and number of bends

- Maximum flue length = 8 m
- Maximum number of bends = 3 bends

1 x 90° bend = 1 m of length, for every 90° bend the overall length must be reduced by 1 m (i.e. with 3 bends maximum flue length is 5 m).

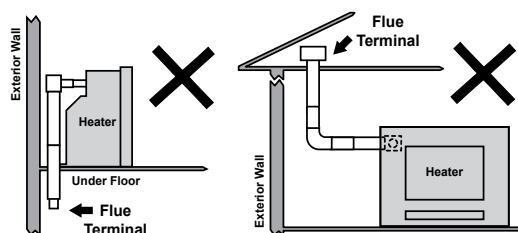
Flue transition for all flueing installations (excluding horizontal direct flueing) is counted as a 90° bend.

Down rating the appliance

For all Arriva flueing except direct flueing, the appliance must be down rated as per instructions on the data plate. Down rating ensures effective performance of the fan.

Roof space or underfloor termination

Flue is not to terminate under floors or in a roof space.



Condensate

A condensate trap is required for any vertical flue installations to ensure condensate generated during combustion is trapped and prevented from entering the chamber.

For horizontal and down and out installations there must be a continuous fall of at least 2°. This equates to approximately 20 mm per metre to the termination point to drain condensate. For standard direct flueing the Rinnai flue kits have an inbuilt 2° fall.

Masonry

The Arriva must not be flued into natural draft flue cavities or via a chimney.

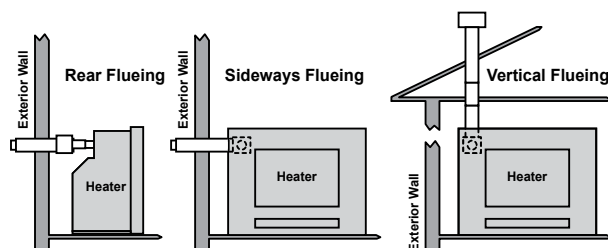
Flueing - Types of Flue Installations



Refer Flue Installation manual provided with the Arriva Direct and Adaption Flue kits for detailed flue installation instructions.

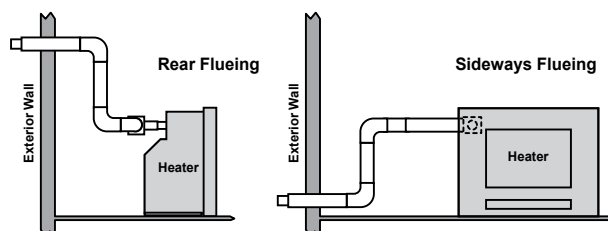
Direct flueing

Flue is run direct from appliance to the termination point either in a horizontal or vertical direction.



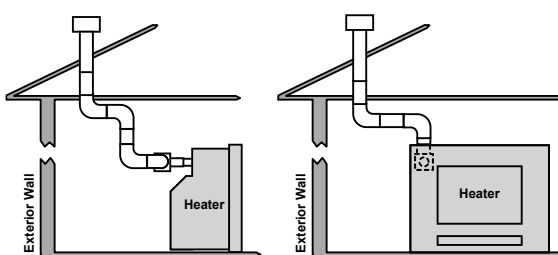
Extended offset horizontal flueing

Flue is run offset from appliance to a horizontal termination point to avoid obstructions.



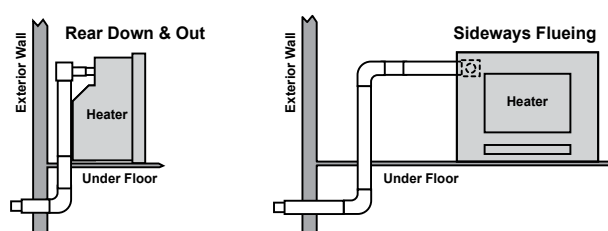
Extended offset vertical flueing

Flue is run offset from appliance to a vertical termination point to avoid obstructions.



Down and out offset flueing

Flue is run below floor level to an external termination point. Flue must terminate 300 mm above the ground.



Flueing - Arriva Flue Components

Arriva Direct A Flue Kit



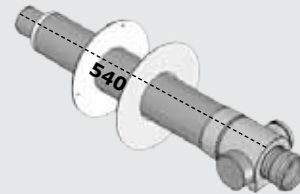
For use in walls 115-240 mm thick (weatherboard). Stainless steel.

Arriva Direct B Flue Kit



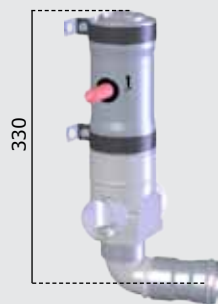
For use in walls 240-400 mm thick (block). Stainless steel.

Arriva Direct Flue Kit



For use in walls greater than 400 mm. Can be cut to size and used with Flue Pipe for longer flueing.

Arriva Adaption Flue Kit



Used for all flueing applications except direct flueing. Elbow section requires a 25 mm clearance from combustibles.

45 ° Bends x 2



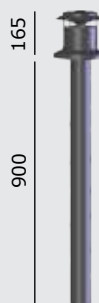
45 ° bends used to facilitate between horizontal, vertical and downwards flueing.

Coaxial Flue Pipe 900 mm



Extension pipe for horizontal, vertical and downwards flueing. Can be cut to size.

Vertical Terminal



Roof cowl and connecting pipe for termination of flue. Powder coated, can be cut to size.

Condensate Trap



For small number of vertical through wall installations where unit is installed against a solid brick wall or where direct/adaption flue cannot be used.

Universal Wall Plate

Ø 170 mm



Used if an extra wall cover plate is required to tidy any installation work through the wall, ceiling or floor.

Wall Terminal Kit



Used to terminate flue pipe in horizontal flue terminations when used with Arriva Adaption Flue Kit

Flue Guard



Protection against hot flue gases when the flue terminates low to the ground.

Flueing - Flue Transition

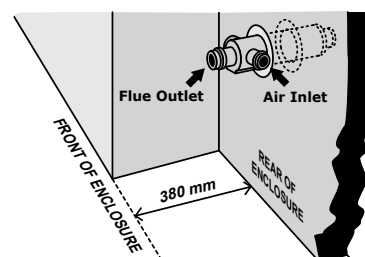
The flue transition provides a connection between the flue spigot and air inlets of the heater with those of the flue system. For all flueing installations (excluding horizontal direct flueing) it is counted as a 90° bend.

The flue transition requires a 5 mm gap from combustibles. This clearance is provided automatically when the supplied stand off brackets are used. All other flue components except the elbow section of the Adaption Flue Kit are designed for zero clearance and can be placed hard against timber or plasterboard.

In all cases when positioned correctly, the flue transition connection must protrude 110 mm from the rear of the enclosure.

Horizontal direct flue transition

When installed as a horizontal direct flue, the flue transition is pushed hard against the internal wall plate which is pushed hard against the rear wall of the enclosure as shown.

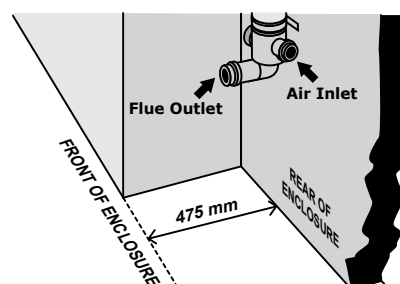


Vertical flue transition

When installed as a vertical direct flue, the flue transition is fastened to the rear wall by standoff brackets supplied.

Elbow component of Adaption Flue Kit requires a 25 mm clearance to combustibles.

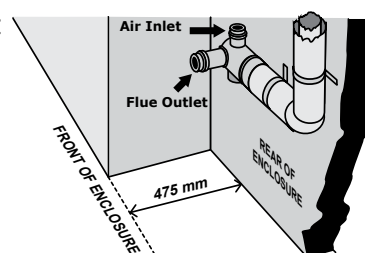
Appliance needs to be down rated, refer data plate.



Offset flue transition

When installed as a vertical or horizontal offset flue, the flue transition is fastened to the rear wall by standoff brackets supplied.

Appliance needs to be down rated, refer data plate.

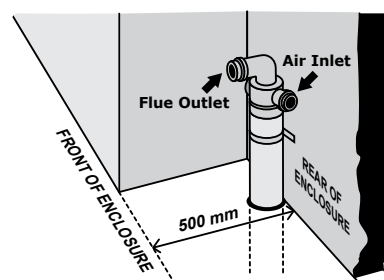


Down and out flue transition

When installed as a down and out flue, the flue transition is fastened to the rear wall by standoff brackets supplied.

The enclosure depth for a down and out installation of 500 mm to allow the flue pipe to clear the base of the appliance.

Appliance needs to be down rated, refer data plate.



Arriva Installation

Carefully remove the log set from the carton and place in a safe location until required. Position the heater body assembly in front of the enclosure opening.

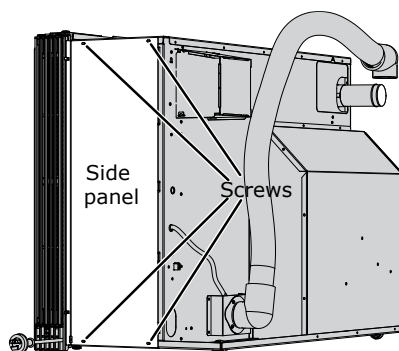


Isolate electrical supply before removing any panels.

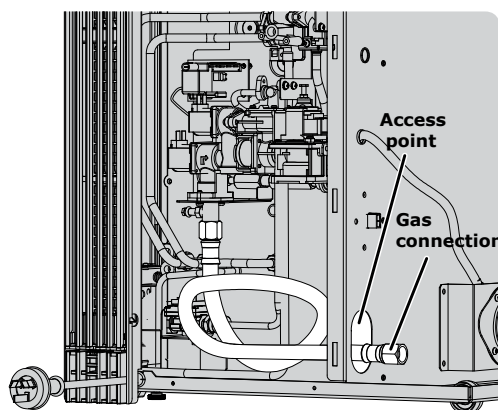
Use a soapy solution to test all gas connections. If a leak is present bubbles will form at the leak point. When finished remove any residue with a rag. Prevent any soapy solution from coming into contact with the electrical components.

Connecting to gas pipe

1. Remove the right hand side access panel by removing the 4 retaining screws.



2. Extend flexible gas connection through the gas fitting access point to the outside of the heater body.

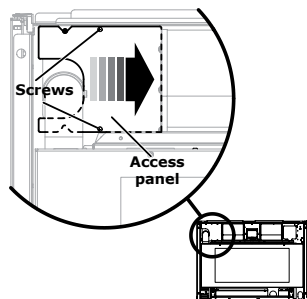


3. Position the appliance in front of the enclosure so the end of the gas pipe aligns with the gas fitting access point.
4. Securely connect flexible gas connection to the gas pipe, testing all connections for gas leaks.
5. Replace right hand panel and secure screws into place.

Arriva Installation

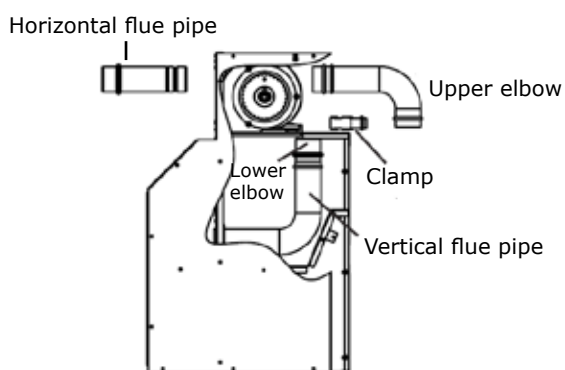
Flue and air hose access

Unscrew flue access panel, 2 fixing screws are located inside the top left hand corner of the appliance. Slide panel to the right behind the convection fan.



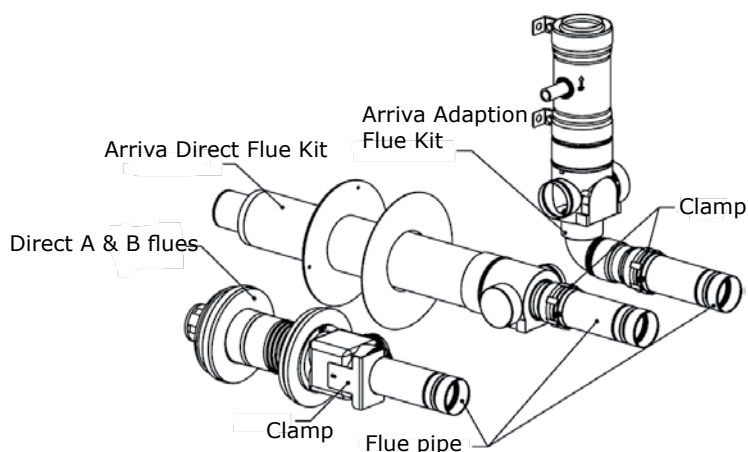
Remember to position hose so it can still be accessed once the appliance is moved into the enclosure. You can do this by tying a piece of string to the air hose and passing this through the flue access opening. This will allow the hose to be pulled up into position as required.

Remove clamp holding vertical flue to the upper elbow and remove upper elbow. Slide vertical pipe fully down into the lower elbow. Remove horizontal flue pipe from upper elbow.



Flue pipe connection

Connect the horizontal flue pipe to flue and hold in place using appropriate clamp. Failure to secure the flue system using the supplied clamps may result in a dangerous situation.

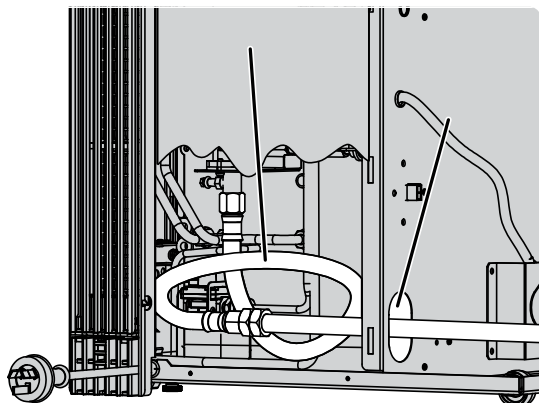


Arriva Installation

Heater body installation

Carefully move appliance body into enclosure cavity ensuring both the gas pipe and flue transition are aligned with their access openings.

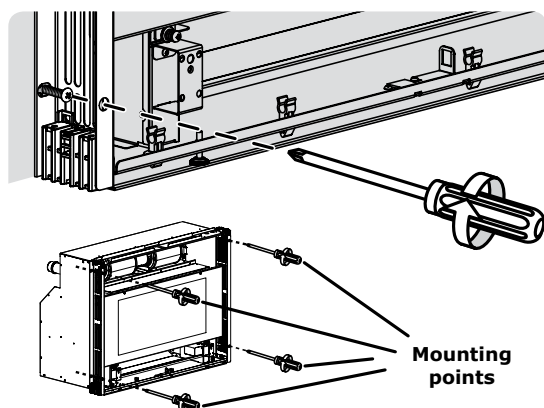
As the appliance is pushed into place ensure the flexible gas connection coils freely inside the appliance and that the gas pipe penetrates through the centre of the gas access point.



Securing the heater body

Once the heater is in position open the air return louvre doors to gain access to the appliance mounting points. There are 4 in total, 2 upper and 2 lower on each side of the appliance.

Secure the heater body through these points using appropriate fixings.



Flue spigot and air inlet hose

The Rinnai Arriva flueing system must be installed in accordance with the instructions supplied.

Flue access panel

Once the flue and air connections are secured slide the flue access panel back into position and fasten.

The hole in the flue access panel is offset and can be reversed to align with the final position of the flue connections.

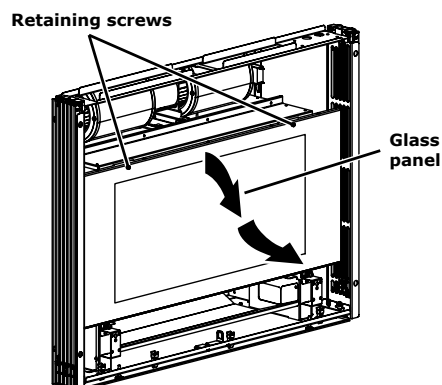
Fitting final flue connections

Slide the upper elbow onto the horizontal flue pipe. Slide the vertical flue pipe up and into the upper elbow and fix together using the clamp.

Check all connections are properly engaged and are inserted beyond the O-ring seal.

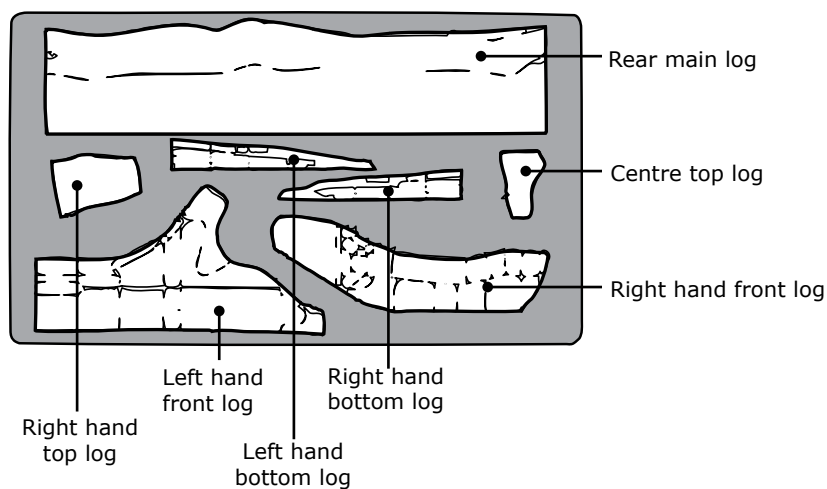
Installing the Log Set

1. Remove the 2 retaining screws that secure the combustion chamber glass panel. Rotate and lift the combustion chamber glass clear of the combustion chamber and put aside until needed.

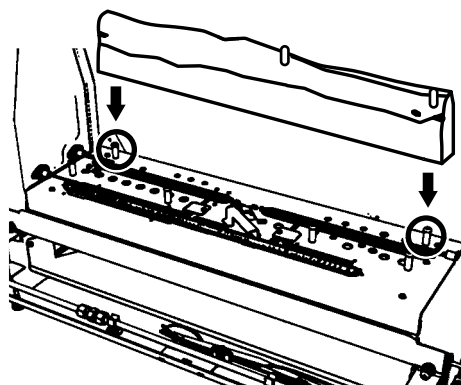


2. Remove log set, this is made up of 7 pieces as follows:

- Rear main log
- Right hand front log
- Right hand top log
- Right hand bottom log
- Left hand front log
- Centre top log
- Left hand bottom log

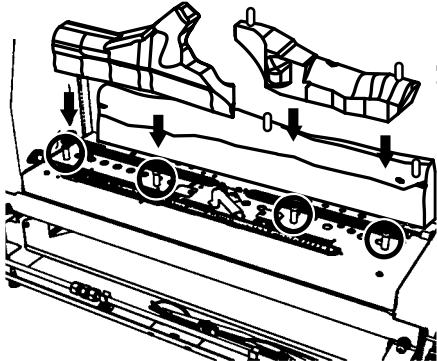


3. Place the rear main log into the combustion chamber on the rear location pins.

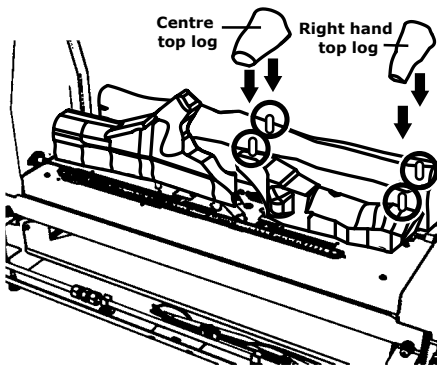


Installing the Log Set

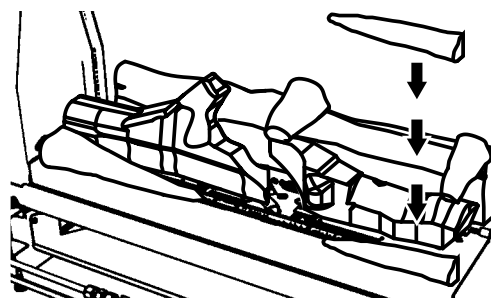
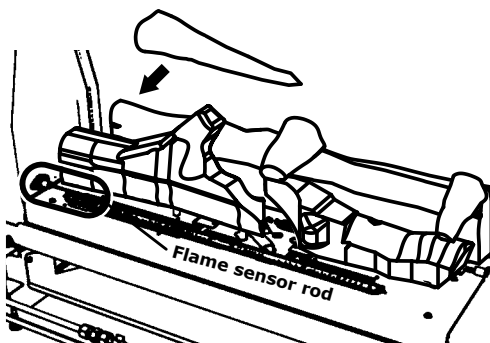
4. Place the left hand and front hand front logs into the combustion chamber on the locating pins.



5. Place the centre top log over the rear main and right hand front logs. Secure on the central locating pin of each log. Repeat step with the right hand top log, securing log on locating pins on the right hand side.



6. Place the left hand bottom log into the combustion chamber so it hides the flame sensor rod from view. Place the right hand bottom log on the opposite side.



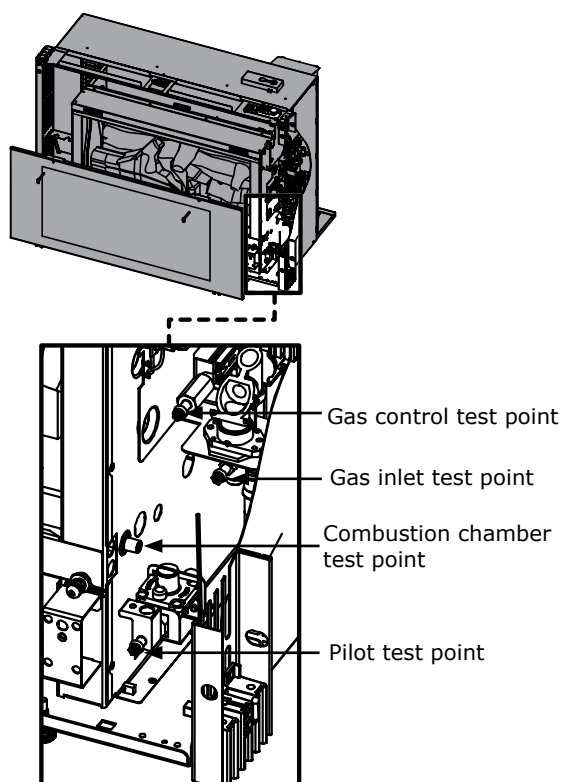
7. Replace combustion chamber glass panel and secure in place with the 2 retaining screws.

Installation - Arriva Commissioning

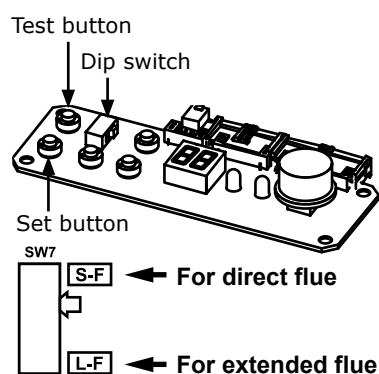
Burner pressures given below are correct at the time of printing and should always be checked against values on the data plate.

Gas Type		NG		LPG		Propane	
Flue		Direct	Extended	Direct	Extended	Direct	Extended
Pressure (Pressure Balance kPa)	Pilot	0.980	0.980	1.960	1.960	1.960	1.960
	PL	0.206	0.206	0.667	0.667	0.667	0.667
	PF	0.666	0.666	2.068	2.068	2.068	2.068
	PA	0.294	0.294	0.843	0.843	0.843	0.843
	PH	0.745	0.588	2.078	1.646	2.078	1.646
Primary gas pressure (minimum) NG 1.5 kPa, LPG 2.75 kPa							

Test Point Positions



Control Panel Positions



Checking supply pressure

1. Remove combustion chamber glass front assembly and the plastic control panel cover.
2. Attach positive pressure hose on the manometer to the glass inlet test point.
3. Replace combustion chamber glass front assembly. Make sure there is a good seal around the edge of the chamber by squeezing tape all the way around the edge. Take care not to bunch the tape in the corners.
4. Press the On/Off button to check inlet pressure when all the burners start operating.

Installation - Arriva Commissioning

Setting pilot pressure

Stop heater and remove combustion chamber glass front assembly. Move the manometer hose to the pilot test point. Remember to replace the inlet test point screw.

Replace combustion chamber glass front assembly, restart heater, check and adjust pilot pressure as required.

Setting operating pressure

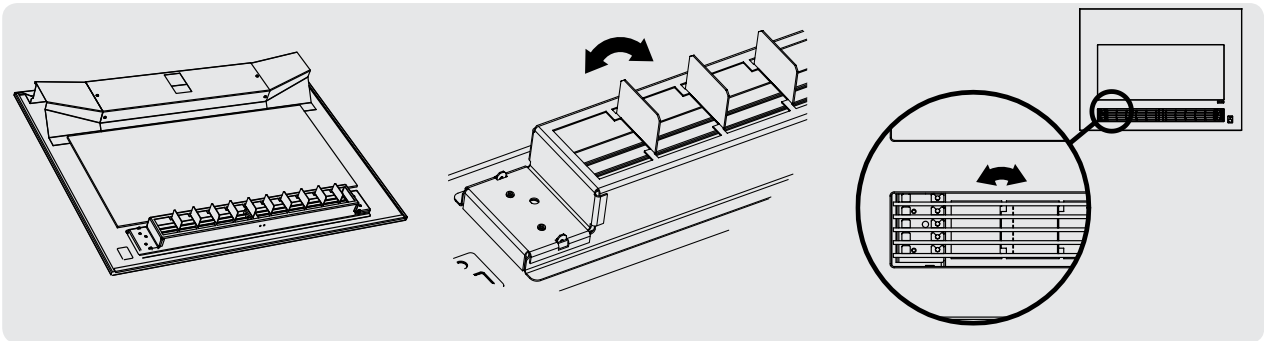
The gas pressures on the appliance are factory set and normally do not require adjustment or commissioning. Should adjustment be required refer steps below or instruction sheet located inside the appliance (plastic pouch on the inside of the left hand outer panel).

1. Stop heater and remove combustion chamber glass front assembly. Attach negative pressure manometer hose to the combustion chamber test point and the positive pressure hose to the gas control test point.
2. Replace combustion chamber glass front assembly.
3. Check the 'Flueing - Flue Transition' section of this manual to see if down rating is required. If required set dip switch to position L-F **before** setting the pressures.
4. Press the On/Off button to start the heater.
5. Press the test button twice and the heater will change to the front burner on its lowest setting (no rear burners) and the display will show PL.
6. Use the up and down buttons to adjust the burner pressure to the value shown on the data plate.
7. Press the set button to lock in the set pressure and the display will change to PF and the front burner will change to its highest setting.
8. Repeat steps 6 and 7 to set stages PA (all burners on low setting) and PH (all burners on high setting).
9. When you press the set button for the final time, the display will change to show 70. If the display does not change to 70 there is an error with the commissioning and it should be carried out again.
10. Press the On/Off button to turn the heater off.
11. Commissioning is now complete. Remove manometer, replace test point screws and replace plastic control panel cover.

Installation - Setting Air Guide Vanes

The air guide vanes allow the installer to set and adjust the horizontal air flow distribution of the appliance. These are not to be confused with the horizontal louvres that determine the direction of vertical air flow, these are fixed and cannot be adjusted.

The air guide vanes can be adjusted by carefully bending the air guide vanes to the left or right as required with a screwdriver.



DO NOT:

- Repeatedly adjust the vanes more than 5 times as this may cause the metal to fracture and/or break
- Attempt to adjust the air flow direction while the appliance is operating or still hot as this can result in a burn injury

Installation - Panels

When installing Arriva glass fascias

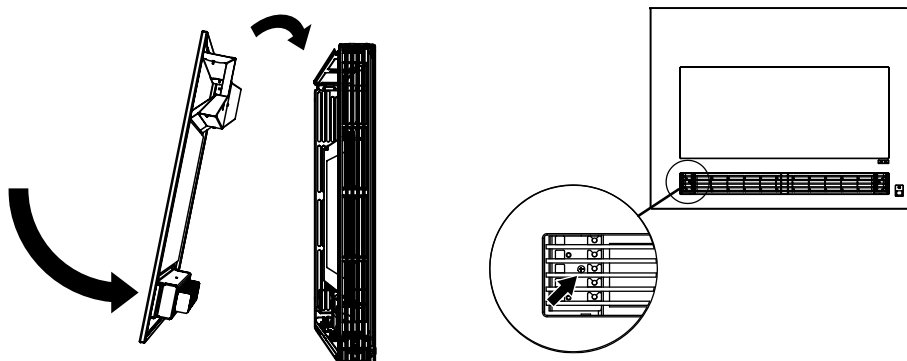


- Inspect glass for any chip or obvious sign of damage before installation
- Always wear gloves and safety glasses when handling glass
- Do not remove glass corner protectors until glass fascia has been installed
- Careful handling should be practised, no sudden impact or excess force should be applied

Installing the fascia panel

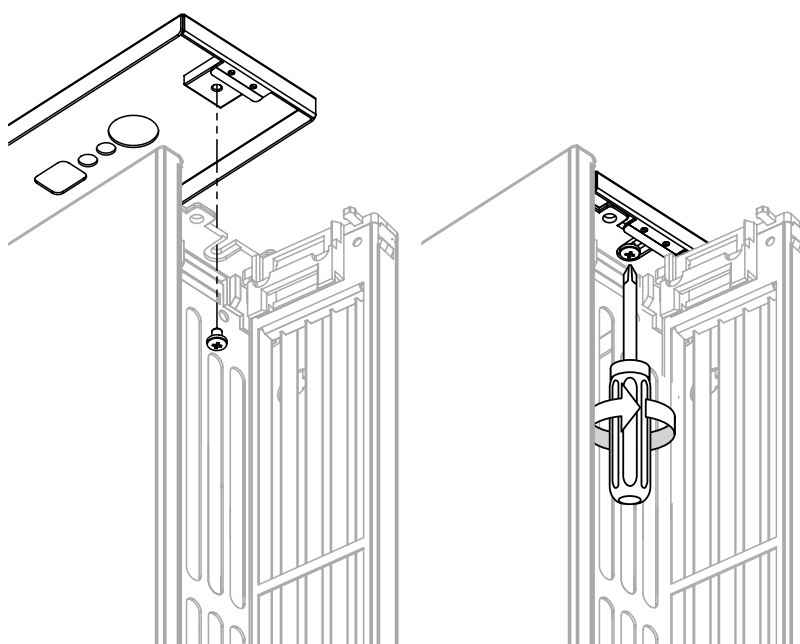
Install the fascia panel by hooking the top to the body and rotating the bottom in towards the appliance body.

Secure the fascia to the appliance body with 2 retaining screws through the front of the warm air discharge louvre.

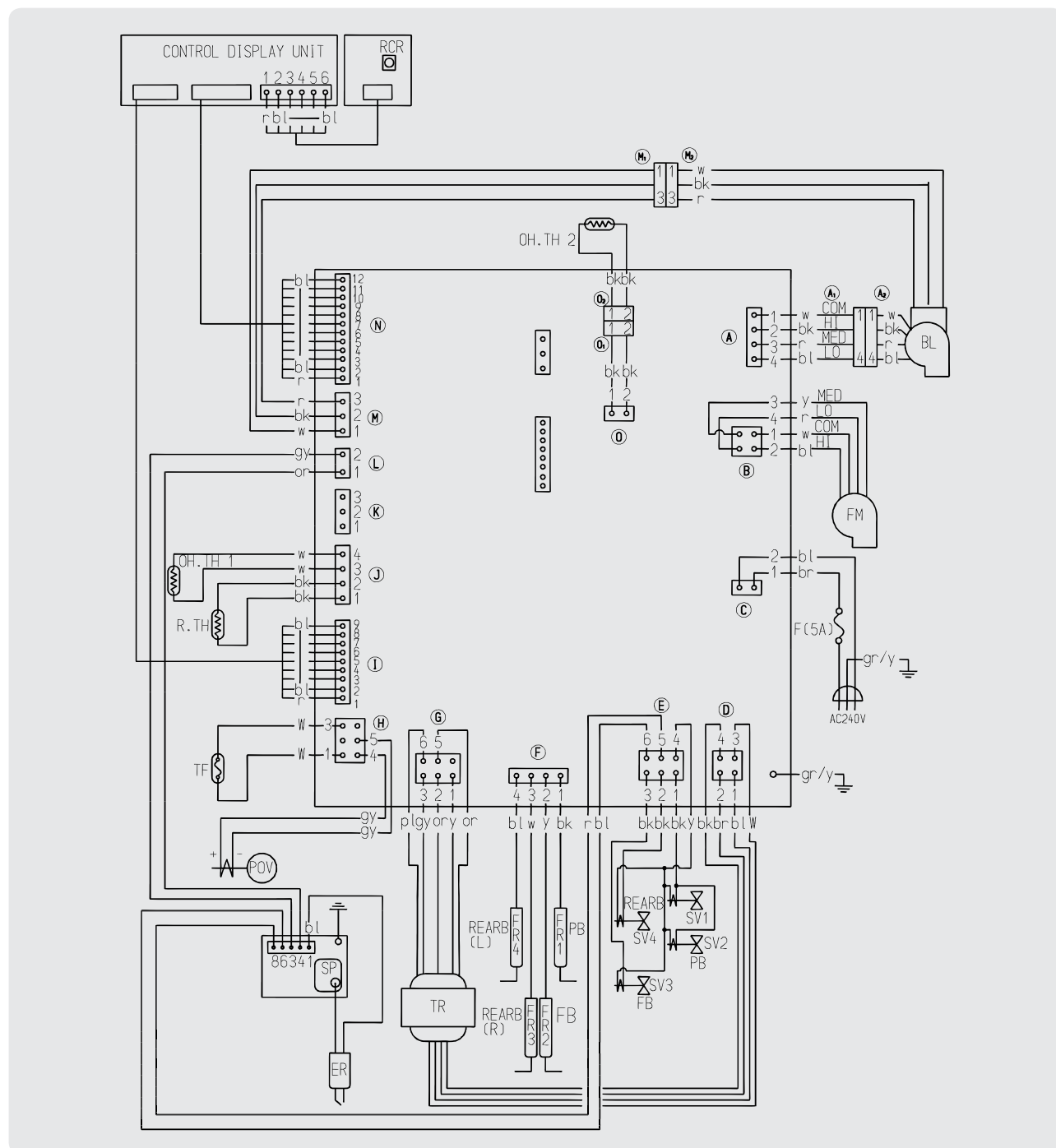


Installing the top panel

Push the top panel down into place and secure with screws provided.

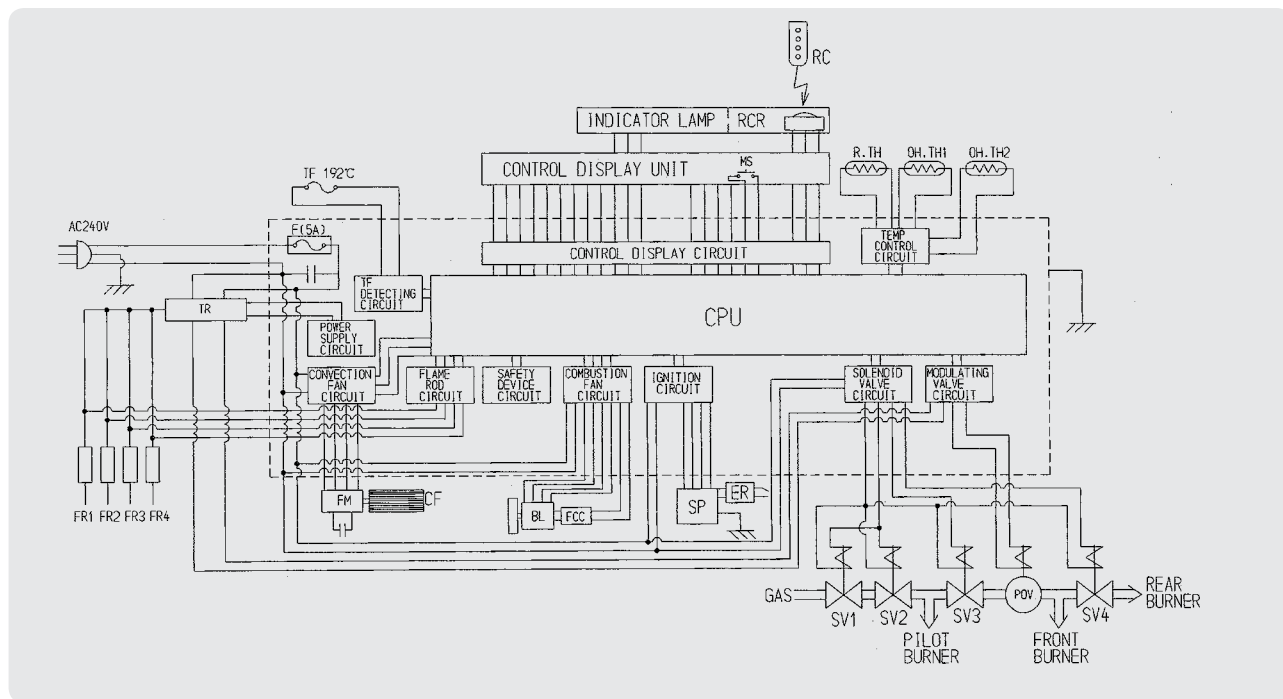


Wiring Diagram



Mark	Colour
bk	Black
bl	Blue
gr/y	Yellow - Green Stripe
gy	Grey
or	Orange
pl	Purple
r	Red
w	White
y	Yellow

Block Diagram



Mark	Part	Mark	Part
MS	Main Switch	OH.TH1,2	Over Heat Thermistor 1, 2
R.TH	Thermistor	SV1~4	Main Solenoid Valve 1~4
TF	Thermal Fuse	BL	Combustion Fan Motor
F	Fuse	FCC	Fan Control Circuit
ER	Electrode	RCR	Remote Control Circuit
POV	Modulating Solenoid Valve	CPU	Central Processing Unit
TR	Transformer	PB	Pilot Burner
FR1~4	Flame Rods 1~4	FB	Front Burner
RC	Remote Controller	REARB	Rear Burner
CF	Convection Fan	REARB (L)	Rear Burner Left
FM	Convection Fan Motor	REARB(R)	Rear Burner Right
SP	Sparker		

Commissioning Checklist

Complete the installation and commissioning checklist below and make sure this manual is left with the customer. Explain to the customer about the use and care of the unit and understands the instructions and operation of the appliance.

	NO	YES
Appliance positioned in a suitable location? (i.e. clearances, combustibles etc.)	☐	☐
Was a Rinnai approved flue system installed and is the flue drawing effectively?	☐	☐
Down rated (if applicable) according to data plate instructions?	☐	☐
Has specified gas pressures been checked and set?	☐	☐
Is the log set located correctly?	☐	☐
Has the appliance been tested for correct operation?	☐	☐
Is the customer fully aware of the operating procedure?	☐	☐

Installer Details

Company name: _____

Installer name: _____

Address: _____

Phone: _____ Mobile: _____

Certificate of Compliance number for installation: _____

Signed: _____ Date: _____



Consumers: 0800 RINNAI (746 624)
Installers: 0800 TO RINNAI (86 746 624)

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